time and space flow variations
Posted by adehoces - 2007/12/26 11:12

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Hello again! I have downloaded and revised all the documentation from
http://www.tucson.ars.ag.gov/kineros, and have a couple of questions about subscripts and superscripts.
Following the 'Hortonian Overland flow' document, if I apply Manning's formula, $\pm = S^{1/2}/n$. However, the
numerical solution's notation (6) suggests that $\pm$ varies with both time and space. I understand space
variations due to slope changes, but how can it vary with time?. For similar reasons, I don´t understand
the subscripts j, j+1 following q (7, Channel routing), as we are considering channel segments receiving
uniformly distributed, time varying lateral inflow.
Thanks a lot!
Ana

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Re:time and space flow variations
Posted by isburns - 2007/12/31 19:51

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I'll forward your questions to Carl Unkrich. He is the resident KINEROS expert and should be able to
answer your question better than I.

Shea

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Re:time and space flow variations
Posted by isburns - 2008/01/02 20:38

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Quoting Carl Unkrich
There is no reason for the Manning conveyance factor, alpha, to have subscripts for overland flow, as
the model does not allow it to vary in either time or space. In the channel routing, however, alpha can
vary along the length of the channel

For channels, although lateral inflow is spatially uniform, the qc terms shown in eq.7 include infiltration
losses, which are in general not spatially uniform. Unfortunately the documentation doesn't mention this.

Carl

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